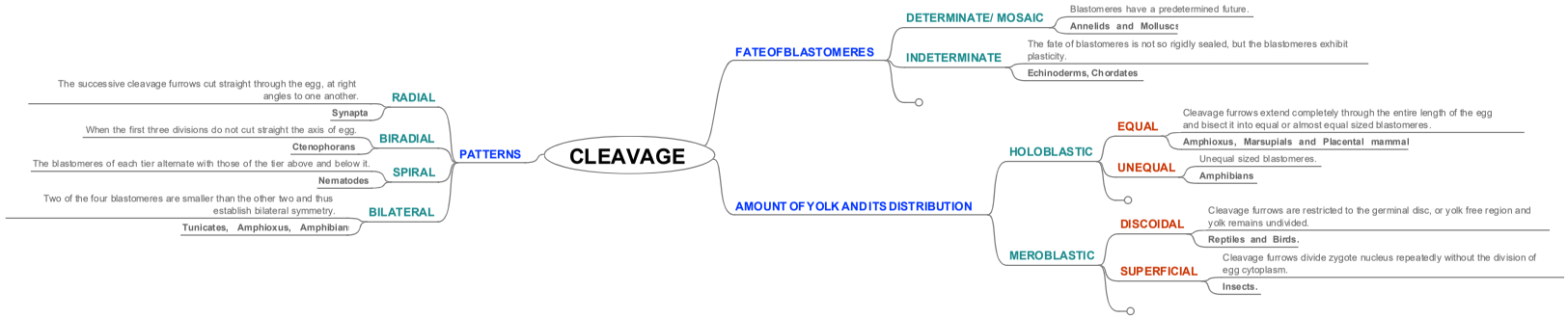
CLEAVAGE
PATTERNS
RADIAL
The successive cleavage furrows cut straight through the egg, at right angles to one another.
Synapta
BIRADIAL
When the first three divisions do not cut straight the axis of egg.
Ctenophorans
SPIRAL
The blastomeres of each tier alternate with those of the tier above and below it.
Nematodes
BILATERAL
Two of the four blastomeres are smaller than the other two and thus establish bilateral symmetry.
Tunicates, Amphioxus, Amphibians
FATE OF BLASTOMERES
DETERMINATE/ MOSAIC
Blastomeres have a predetermined future.
Annelids and Molluscs
INDETERMINATE
The fate of blastomeres is not so rigidly sealed, but the blastomeres exhibit plasticity.
Echinoderms, Chordates
AMOUNT OF YOLK AND ITS DISTRIBUTION
HOLOBLASTIC
EQUAL
Cleavage furrows extend completely through the entire length of the egg and bisect it into equal or almost equal sized blastomeres.
Amphioxus, Marsupials and Placental mammal
UNEQUAL
Unequal sized blastomeres.
Amphibians
MEROBLASTIC
DISCOIDAL
Cleavage furrows are restricted to the germinal disc, or yolk free region and yolk remains undivided.
Reptiles and Birds.
SUPERFICIAL
Cleavage furrows divide zygote nucleus repeatedly without the division of egg cytoplasm.
Insects.